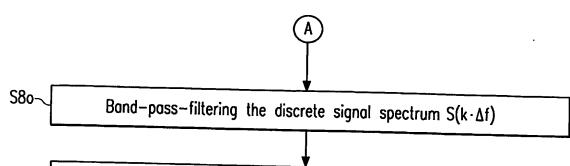


6/7

300b



Performing an amplitude detection of the band-pass-filtered discrete signal spectrum $S(k \cdot \Delta f)$

Correlating the discrete signal spectrum $S_{\mathcal{T}}(k\cdot\Delta f)$ of the delayed version $s(nT-\mathcal{T})$ of the analog-to-digital-converted audio signal s(nT) with an audio speech activity estimate obtained by said amplitude detection step S8b, thereby yielding an estimate $\widetilde{S}_i(f)$ for the frequency spectrum $S_i(f)$ corresponding to the signal $s_i(f)$ which represents saids speaker's voice as well as an estimate $\widetilde{\Phi}_{nn}(f)$ for the noise power density spectrum $\Phi_{nn}(f)$ of the statistically distributed background noise n'(f)

Correlating the discrete signal spectrum $S_{\mathcal{T}}(k \cdot \Delta f)$ with a visual speech activity estimate taken from a visual feature vector $\underline{\mathbf{Q}}_{\mathbf{V},\mathbf{f}}$ supplied by the visual feature extraction and analyzing means 104a+b and/or $104^{\circ}+104^{\circ}$, thereby yielding a further estimate $\widetilde{S}_{\mathbf{i}}(f)$ for applications the estimate $\widetilde{S}_{\mathbf{i}}(f)$ for updating the estimate $\widetilde{\Phi}_{\mathbf{nn}}(f)$ for updating the estimate $\widetilde{\Phi}_{\mathbf{nn}}(f)$

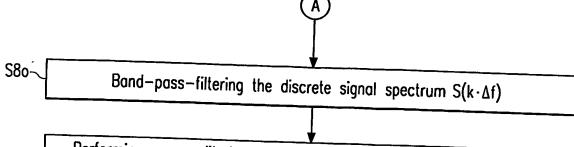
Adjusting the cut—off frequencies of a band—pass filter 204 used for filtering the discrete signal spectrum $S(k \cdot \Delta f)$ dependent on the band—width of the estimated speech signal spectrum $\widetilde{S}_i(f)$

Fig. 3b

S10

S11c-

300c



Performing an amplitude detection of the band-pass-filtered discrete signal spectrum $S(k \cdot \Delta f)$

Adding an audio speech activity estimate obtained by the amplitude detection step S8b to a visual speech activity estimate taken from a visual feature vector $Q_{v,t}$ supplied by said visual feature extraction and analyzing means 104a+b and/or 104'+104'', thereby yielding an audio-visual speech activity estimate

Correlating the discrete signal spectrum $S(k \cdot \Delta f)$ with the audio -visual speech activity estimate, thereby yielding an estimate $\widetilde{S}_i(f)$ for the frequency spectrum $S_i(f)$ corresponding to the signal $s_i(f)$ which represents said speaker's voice as well as an estimate $\widetilde{\Phi}_{nn}(f)$ for the noise power density spectrum $\Phi_{nn}(f)$ of the statistically distributed background noise n'(t)

Adjusting the cut-off frequencies of a band-pass filter 204 used for filtering the discrete signal spectrum $S(k \cdot \Delta f)$ dependent on the bandwidth of the estimated speech signal spectrum $\widetilde{S}_i(f)$

Fig. 3c